

REMARKS

Claims 1-6 and 9-11 are amended. Claims 7-8 remain withdrawn by the Examiner. Now pending in this case are claims 1-6 and 9-12, of which claims 1, 3, 5, 9 and 11 are independent.

The claim amendments add no new matter; support is found throughout the specification, including the claims as originally filed. Regarding claims 1, 3 and 11 see, for example, paragraphs 43, 53 and 63; regarding claim 5, see, for example, paragraph 55. Other limitations are added to the claims pertaining to provide a core; regarding these amendments, see, for example, paragraphs 4, 5, and 50, and other numerous references to a core throughout the specification. Other amendments are made to improve the form of the claims, are minor and support is self-evident. For example, minor amendments are made to the preambles of selected claims. It is noted that citations herein to paragraphs of Applicants' application are to the application as published (US 2004/0069019 A1)

Examiner Hoffman is thanked for the courtesy of granting an interview, held telephonically on June 15, 2007, with Applicants' attorney. The interview was very helpful in clarifying for the Applicants' attorney issues of concern to Examiner. Examiner Hoffman and Applicants' attorney both placed interview summaries on the record. Amendments are made to the independent claims that, it is respectfully submitted, address the Examiner's concerns, as is discussed in more detail below.

Rejection of Independent Claims

Independent claim 1

Claim 1 is rejected as anticipated by US 6,192,713 to Zhang et al. ("Zhang"). As indicated by the Interview Summaries filed by Applicants and the Examiner, the Examiner is concerned that the "refraining" limitation previously recited in the claims did not exclude merely temporarily refraining, that is, refraining for just a short period of time such that the recited voids would be eliminated by subsequent sintering. Claims 1 and 3 are amended to recite "forming a first sintered layer by sintering said layer of soot such that said first sintered layer includes voids that are at least one of empty or comprise a gas and that remain so as to contribute to truncated regions of an optical fiber drawn from the optical fiber preform." As noted in Applicants' application, truncated regions can help promote the scattering of pump radiation

propagating in a multimode inner cladding of a “double clad” or “cladding pumped” fiber. A fiber comprising such truncated regions is claimed in US Patent 6,687,445, of which this application is a divisional. Applicants respectfully submit that the foregoing amendment clearly addresses the Examiner’s concern.

The rejection stated at pages 4-6 of the outstanding Office Action (that is, the Office Action bearing a Notification Date 12/19/06) relies on a core of Zhang as meeting the limitation “cladding” as recited in claim 1. Zhang clearly recites a core, not a cladding, and Applicants respectfully disagree with the analysis of the Office Action. The Office Action reasons that “any glass can be considered to be a core, and any glass can be considered to be a cladding,” essentially stating that the two terms are interchangeable (Office Action, page 8). Applicants respectfully submit that “core” and “cladding” have well-understood meanings to those of ordinary skill in the art, who use, and have used, regularly over the last forty years the terms to effectively communicate and advance the art, and certainly without considering the terms wholly interchangeable. The hypothetical stated by the Examiner - that for a particular type of fiber not otherwise identified it could be possible for one person to call a region a cladding that others would refer to as a core - does not establish that the terms are not well understood by those of ordinary skill and have established meanings, again including not being wholly interchangeable. The terms are well understood and used to refer to structure, not intended use.

In any event, even accepting, for purposes of argument only, the hypothetical that there could be some confusion in some instance, in the present case, there clearly is no confusion regarding the core of Zhang. Clearly the core of Zhang is a “core” and not a “cladding.” A “cladding” must “clad,” (or, in other words, be disposed about) something else - that is why it is referred to as a “cladding.” The core of Zhang relied upon in the Office Action is not a cladding, even under the broadest of interpretations. For example, the core of Zhang described at Example 3A in column 24 is a homogeneous region, as it is formed from a “uniform glass layer” (Zhang, column 23, line 65) and it includes the center of the preform upon collapse (Zhang, column 23, lines 65-67). Clearly, this “core” does not “clad” anything else; it is not disposed about anything. Zhang must be read as a whole, including the collapse step. Hence reading the term “cladding” on the core of Example 3A is inappropriate.

Although Applicants disagree with the Examiner's interpretation, to expedite prosecution, Claim 1 is amended to recite "providing a core" and that a cladding is "surrounding the core." Applicants trust that the foregoing should address the Examiner's concerns.

It is noted that claim 1 recites sintering "such that the different layer is substantially free from voids" as well as a first sintered layer that includes "voids ... that remain so as to contribute to truncated regions" Thus, it is respectfully submitted, the Examiner's concern, expressed on pages 5-6 of the Office Action, that there is nothing claimed that is any different than the bubbles one typically encounters in typical preform manufacturing methods, is addressed. It is acknowledged that bubbles may occur in prior art manufacturing processes, that they are considered defects, and that the prior art teaches process adjustments or other techniques to eliminate most or all of the defects from the preform. See paragraph 64 of Applicants' published application. The recitation of claim 1 "such that the layer is substantially free of voids" captures the largely defect free techniques taught and urged by the prior art. Clearly "voids ... that remain so as to contribute to truncated regions" has a different ambit than "substantially free."

Applicants respectfully submit that the foregoing amendments address the Examiner's concerns underlying the rejection of claim 1 as anticipated by Zhang as well as the earlier rejection of Claim 1 as anticipated by Evans. Regarding Evans, it is respectfully submitted, as one example, that Evans does not teach or suggest "forming a first sintered layer by sintering said layer of soot such that said first sintered layer includes voids that are at least one of empty or comprise a gas and that remain so as to contribute to truncated regions of an optical fiber drawn from the optical fiber preform."

Reconsideration and withdrawal of the rejection of claim 1 is respectfully requested.

Independent Claim 3

Claim 3 is rejected as obvious over Zhang in view US 4,820,322 to Baumgart. However, claim 3 includes limitations also recited in claim 1. For example, claim 3 recites "forming a sintered layer by sintering the layer of soot such that the sintered layer includes voids that are at least one of empty or comprise a gas and that remain so as to contribute to truncated regions of an optical fiber drawn from the optical fiber preform," which as noted above, is not taught by Zhang. Furthermore, the core of Zhang fails to read on "cladding" as recited in claim 3, which is

now also amended to specifically recite “providing a core.” Baumgart fails to remedy the above noted defect of Zhang. At least for reasons noted above regarding claim 1, Zhang, as well as Evans, fail to anticipate claim 3. Accordingly, reconsideration and withdrawal of the rejection of claim 3 is respectfully requested.

Independent Claim 5

Claim 5 is rejected as anticipated by Zhang. It is respectfully submitted that Zhang fails to anticipate the invention as recited in claim 5. The Office Action cites to Example II of Zhang, starting at column 22. Zhang fails to anticipate claim 5 at least because Zhang fails to teach or suggest “exposing the different layer of soot ... and forming a different layer of the *cladding* by sintering the different layer ...” as recited in claim 5. As noted above in the discussion of claim 1, references in Zhang to a core do not meet the cladding limitation of claim 5. Furthermore, to address the Examiner’s concerns, claim 5 is amended to further recite “providing a core”. The outstanding Office Action rejects claim 5 as anticipated by Evans, citing to the prior Office Action bearing a Mailing Date of 05/05/2006 for substantive reasoning. Evans fails to teach or suggest the invention as recited in claim 5. For example, Evans fails to teach or suggest “exposing the different layer of soot to a selected material in the form of a gas or liquid for absorption by the different layer of soot” as recited in claim 5.

It is also noted that claim 5 is amended to further recite “refraining from exposing said layer to said selected material such that said layer remains unexposed to said selected material when an optical fiber is drawn from the preform”. The foregoing amendment is added to further define the subject matter of the claim and is not made responsive to rejection, and hence, for purposes of the doctrine of equivalents, not considered to be made for reasons related to patentability.

Reconsideration and withdrawal of the rejections of claim 5 is respectfully requested.

Independent Claim 9

Claim 9 is rejected as obvious over Zhang in view of Baumgart. However, as with claim 5, claim 9 recites “exposing the different layer of soot ... and forming a different layer of the *cladding* by sintering the different layer” Zhang, as noted above, fails to teach or suggest the foregoing limitation, a defect that is not remedied by Baumgart. The outstanding Office Action also rejects claim 9 as anticipated by Evans, referring to the earlier Office Action for

substantive reasoning. Evans fails to teach or suggest the invention as recited in claim 9. For example, Evans fails to teach or suggest “adhering a layer of soot to the inside of the elongate glass article” and “exposing the different layer of soot to a selected material in the form of a gas or liquid for absorption by the different layer of soot,” as recited in claim 9.

It is noted that claim 9 is also amended to recite “wherein, if the step of providing the second elongate glass article does not include providing said at least a portion of a core, then providing a core, said core being surrounded by the cladding.”

Reconsideration and withdrawal of the rejection of claim 9 is respectfully requested.

Independent Claim 11

Claim 11 is rejected as anticipated by Zhang. Page 3 of the outstanding Office Action states that “Zhang’s Example 3A reads on the claim.” Zhang at Example 3A fails to teach or suggest limitations of claim 11, including “adding glass to the article for forming a first part of the *cladding*, the added glass including *discrete regions* having a different index of refraction than the added glass *and remaining so as to contribute to truncated regions of an optical fiber drawn from the optical fiber preform.*” Claim 11 is also rejected as anticipated Evans. However, Evans also fails to teach or suggest limitations of the claim, including at least the foregoing limitation. It is noted that claim 11 is also amended to recited “providing a core, said core being surrounded by the cladding.” Reconsideration and withdrawal of the rejection of claim 11 is respectfully requested.

Rejection of Dependent Claims

Claims 2, 4, 6 and 12 are dependent and not anticipated or rendered obvious at least for the reasons above noted as regards the independent claim from which each dependent claim depends.

Reply herein to other contentions presented in the outstanding Office Action in relation to the rejections or objections of pending claims is moot in light of Applicants’ demonstration that the references fail to teach a limitation or limitations of each Independent claim, and accordingly any such matters need not be addressed herein. However, Applicants make no admission whatsoever by virtue of not addressing these contentions, and reserves the right to raise any challenges in the future.

Electronic Payment of Fees

The fees associated with this filing (Five Month Extension of Time fee of \$1,115 and RCE fee of \$405) are being paid electronically. No other fees are considered to be due. However, if it is determined that an additional fee is due, or that an overpayment has been made, please debit or credit, as appropriate, Deposit Order Account 502343.

CONCLUSION

This Response is considered to address all matters raised by the Examiner in the outstanding Office Action bearing a Notification Date of 12/19/2006. Applicants respectfully submit that the claims patentably distinguish over the art relied upon. Reconsideration and withdrawal of all rejections and objections is respectfully requested.

Please do not hesitate to contact the undersigned if any issues are deemed to remain unresolved.

Dated: January 22, 2008

Respectfully submitted,

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